

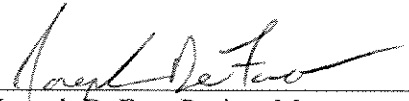
**Phase I and Phase II Targeted Brownfields Site Assessment  
City of Corona  
Corona, CA**

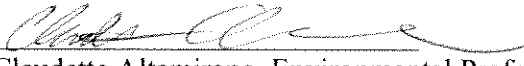
**USACE Contract No.: W912P7-05-F-0049  
Work Order No.: 12767.061.006**

**April 2007**

**Prepared for:  
U.S. Environmental Protection Agency  
Region IX**

**Prepared by:  
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### **Environmental Professional Statement**

**I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 40 CFR Part 312.10.**

**I have the specific qualifications based on education, training , and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.**

A handwritten signature in black ink, appearing to read 'Claudette Altamirano', is written over a horizontal line.

Claudette Altamirano  
Environmental Professional  
California REA-06682

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## **Appendices**

Appendix A: Site Photographs
Appendix B: Environmental Data Resources (EDR) Historical Topographic Map Report
Appendix C: Environmental Data Resources (EDR) Radius Map
Appendix D: Laboratory Analytical Data

## **List of Acronyms**

APN	Assessor's Parcel Number
AST	Above Ground Storage Tank
ASTM	American Society for Testing and Materials
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liabilities Information System
EDR	Environmental Data Resources, Inc.
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
LUST	Leaking Underground Storage Tank
mg/kg	milligrams per kilogram
msl	mean sea level
NPL	National Priorities List
NRCS	Natural Resources Conservation Service
PRG	Preliminary Remediation Goals
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
RWQCB	Regional Water Quality Control Board
Site	City of Corona site
SQG	small-quantity generator
TBSA	Targeted Brownfields Site Assessment
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
WESTON	Weston Solutions, Inc.

## SECTION 1 INTRODUCTION

### 1.1 SCOPE OF WORK AND PURPOSE

The United States Environmental Protection Agency (EPA), Region 9, tasked Weston Solutions, Inc. (WESTON) to conduct a Targeted Brownfields Site Assessment (TBSA) at the City of Corona site (Site) in Corona, California. Brownfields sites are vacant or otherwise under-utilized properties, largely of industrial usage, with known or perceived contamination that precludes the sale and/or redevelopment of the site. The EPA's Brownfields Economic Redevelopment Initiative is designed to empower states, cities, tribes, communities, and other stakeholders in economic redevelopment to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields. As part of the TBSA at the City of Corona site, WESTON has prepared a combined Phase I and Phase II Environmental Site Assessment (ESA).

The purpose of the Phase I ESA is to identify recognized environmental conditions associated with the historical use of the property, the physical condition of the property, and present operational practices. *The Standard Practice for Site Assessments: Phase I Environmental Site Assessment Process* (E 1527-05), as issued by the American Society for Testing and Materials (ASTM), defines recognized environmental conditions as follows:

“The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property (ASTM E-1527).”

This Phase I ESA was conducted in accordance with ASTM E-1527-05. A Phase I ESA consists of four general elements: (1) a records review, (2) a site reconnaissance, (3) interviews, and (4) a report. The first three elements are conducted to identify recognized environmental conditions related to the subject property.

The purpose of the Phase II ESA is to investigate areas of concern identified in a Phase I ESA, in order to more clearly characterize a property. The Phase II ESA consists of: (1) assessment activities and (2) analysis of results.

The City of Corona Redevelopment Agency plans to sublease the Site in order to relocate various industrial businesses. The TBSA was performed in order to determine whether contaminants are present in on-site soils that may pose a threat to human health and would need to be addressed before the City of Corona Redevelopment Agency could relocate industrial business to the site.

## **1.2 SPECIAL TERMS AND CONDITIONS**

This document has been prepared by WESTON solely for the use and benefit of the United States Army Corps of Engineers (USACE), the USEPA, and the City of Corona Redevelopment Agency. Any use of this document or information herein by persons or entities other than USACE, USEPA or the City of Corona Redevelopment Agency without the express written consent of WESTON will be at the sole risk and liability of said person or entity, and WESTON will not be liable to USACE, USEPA or the City of Corona Redevelopment Agency or such persons or entities for any damages resulting therefrom. It is understood that this document may not include all information pertaining to the described site.

## **1.3 LIMITATIONS AND EXCEPTIONS OF ASSESSMENT**

ASTM E-1527-05 acknowledges that “...no environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property.” The ESA “...is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property, and ...recognize reasonable limits of time and cost.” The ASTM E-1527-05 goes on to report: “[t]here is a point at which the cost of information obtained or the time required to gather it outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions.”

WESTON has performed this combined Phase I and Phase II ESA in conformance with the scope and limitations of ASTM E-1527-05 and E-2247-02 (2006) respectively. No exceptions to, or deletions from, this protocol were required, except for the following:

- Aerial photography was not readily available for every five-year period back to a time when the property was undeveloped.

## **1.4 LIMITING CONDITIONS AND METHODOLOGY USED**

This assessment was completed by the following team of WESTON environmental professionals in conjunction with client representatives:

- Joseph DeFao, Project Manager
- Ben Castellana, Site Field Manager
- Tara Fitzgerald, Associate Project Scientist
- Claudette Altamirano, Environmental Professional

This assessment report contains the results of: a reconnaissance of the subject property and surrounding properties conducted on February 15, 2007 and February 19 to February 21, 2007; a review of property, government, and historical records; and an interview with Bruce Hohn, who manages the property for the Hohn Family Trust, II AVMGH. At least one inspection has occurred



at the City of Corona site. Information used to complete this ESA was reasonably ascertainable, and visually and physically observable. This ESA included the testing and sampling of soil at biased locations throughout the site.

## **1.5 REPORT ORGANIZATION**

The report consists of the following sections:

- Section 1: Introduction - provides the basis for the report.
- Section 2: Site Characteristics - describes the property features and layout; the current and historical uses of the subject property and the current uses of the surrounding area; natural characteristics of the site including soils, surface water, and groundwater; and historical information obtained from maps, aerial photographs, and building permit records.
- Section 3: Site Reconnaissance - includes information based on observations made during the property inspection and information obtained from interviews with knowledgeable personnel.
- Section 4: Records Review - presents a literature search of information regarding the subject property. This section includes the environmental database search and publicly available and practically reviewable information obtained from local regulatory agencies including previous investigations.
- Section 5: Assessment Activities - describes the assessment activities that occurred at the site including a detailed description of the areas investigated and environmental samples that were collected.
- Section 6: Results - presents the analytical data associated with the assessment activities.
- Section 7: Conclusions and Recommendations - presents the recognized environmental conditions and recommendations for further action, if appropriate.
- Section 8: Limitations - Describes the limitations in the use of the data described in this report.
- Section 9: References - presents a list of the materials used or obtained during the TBSA.

## **SECTION 2**

### **SITE CHARACTERISTICS**

#### **2.1 SITE LOCATION**

As shown in Figure 2-1, the Site is located in Corona, Riverside County, California (Latitude 33°51'51.4" North, Longitude 117°31'50.9" West). The City of Corona Site (Site) occupies approximately 45 acres and consists of sections of seven parcels of land: 107-070-016, 107-070-019, 107-070-030, 107-070-37, 107-070-046, 107-070-047, and 107-070-048.

#### **2.2 PHYSICAL SETTING**

##### **2.2.1 Regional and Local Physiography**

The Site is located in Riverside County, California. The elevation of the Site is 666 feet above mean sea level (msl). The elevation of the immediate area ranges from 663 feet above msl to 1078 feet above mean sea level. The site is relatively flat except around Lake Hohn, where the Site has a fairly steep slope down to the water.

##### **2.2.2 Geology**

The Site is located at the upper end of the Santa Ana River Canyon. The Santa Ana River Canyon marks the beginning of the Santa Ana Mountains.

The Site is located in the Corona South United States Geological Services Quadrangle. The geology of the area is characterized by Mesozoic intrusive and metamorphic rocks exposed in the structurally uplifted areas, and Quaternary clastic sediments in the structural basins. The Site geology is dominated by Quaternary alluvial fan and surficial deposits, as well as anthropogenic fill materials associated with quarrying activities at the site. The dominant soil component is monserate. Soils are well-drained and have intermediate water holding capacity.

The majority of the Site lies bare with a few scattered trees. There is limited vegetation except around the lake, where vegetation grows at the banks of the lake. The soil at the site is characterized as Cortina gravelly sandy loam with a zero to 2 percent slope.





0 350 700  
Scale in Feet

— Site Boundary



## Site Location Map City of Corona Site Corona, California

Figure  
**2-1**

### **2.2.3 Hydrogeology**

The Site lies within the Temescal Subbasin, located in the Upper Santa Ana Valley Groundwater Basin. The Temescal Subbasin is bounded on the north by the Chino Subbasin, on the east by non-water bearing crystalline rocks of the El Sobrante de San Jacinto and La Sierra Hills, on the south by the Elsinore Groundwater Basin, and on the west by the Santa Ana Mountains.

Water bearing units in the Temescal Subbasin are dominantly composed of Holocene age alluvium deposited by streams draining the northeast slopes of the Santa Ana Mountains. The Santa Ana River has from time to time contributed deposits through the Arlington Gap along the northern margin of the Temescal Subbasin.

The City of Corona obtains 67 percent of its water supply from groundwater. The rest of the water supply is obtained from the Colorado River State Water Project. The depth to water in the area is greater than 6 feet below ground surface (bgs)

### **2.2.4 Surface Water**

The Temescal Creek borders the site. In addition, Lake Hohn was created when Temescal Creek eroded the borders to a gravel mining pit. The pit was filled with water, and Temescal Creek flows northward through the lake. The Temescal flows into the Santa Ana River approximately four miles from the site. The Santa Ana River then runs approximately 30 miles until it reaches the Pacific Ocean in Huntington Beach, California.

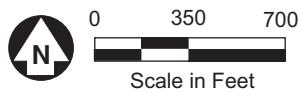
Annual rainfall in the City of Corona averages 8 to 12 inches.

## **2.3 SITE DESCRIPTION AND CURRENT USE**

The Site occupies approximately 45 acres and consists of sections of seven parcels of land: 107-070-016, 107-070-019, 107-070-030, 107-070-37, 107-070-046, 107-070-047, and 107-070-048. There are three manufacturing businesses surrounding the Site to the east and south: All American Asphalt, Vulcan Materials Company Corona Rock and Asphalt, and Robertson's Ready Mix. There is also a closed landfill, Corona Disposal Site, to the west of the Site. The Site is partially undeveloped. Remains of the Corona Truck Salvage which operated on parcel 107-070-046 are still present. Trucks use the area on parcel APN 107-070-046 for parking and to access Vulcan Materials Company Corona Rock and Asphalt. B. P. John Recycling, Inc. operates a wood-chipping facility on APNs 107-070-019 and 107-070-048. Manhole Builders, a manhole building company, operates on APN 107-070-047. There are several structures consisting of trailers, storage buildings, and a truck repair canopy located on parcel number 107-070-046. Vulcan Materials Company Corona Rock and Asphalt is leasing a section of parcel number 107-070-046, that is located immediately southeast of the Corona Truck Salvage operation.



The Site lies immediately adjacent to Lake Hohn, which is a pit lake associated with quarrying activities at the site. As shown in Figure 2-2, the areas of the parcels 107-070-016, 107-070-019, 107-070-037, 107-070-046, 107-070-047, 107-070-048 that are occupied by Lake Hohn and to the east of Lake Hohn are not part of the Site. The Site layout is presented in Figure 2-2.



— Site Boundary  
— Parcel Boundary



## Site Layout Map City of Corona Site Corona, California

Figure  
**2-2**



**Assessors Parcel Numbers 107-070-019, 107-070-030, and 107-070-048**

The assessor parcel number (APN) 107-070-019 is the site of a wood-chipping operation operated by B. P. John Recycling, Inc. During the site inspection, two large mounds of chipped wood that were approximately 20 square feet in area and 20 feet tall were located on the parcel.

Wood-chipping operations were ongoing during the site inspection and while samples were being collected. Access to APN 107-070-019 is restricted by a gate that was unlocked during wood chipping activities. There is a groundwater well located in the northern portion of the parcel.

Wood chipping activities also occur on APN 107-070-048. The southern part of the parcel contains two concrete pads and one roll-off bin. The concrete pads did not appear to be in use and the roll-off bin contained vegetation. There was no evidence of activity on this parcel and no activity was observed during the site visit. There is a groundwater well located on the parcel.

The APN 107-070-030 is flood control channel owned by the County of Riverside Flood Control District that runs through APN 107-070-048 and borders APN 107-070-019. Access to the parcel is restricted by a locked gate. There does not appear to be any other activity on APN-070-030.

**APNs 107-070-016 and 107-070-047**

Manhole Builders currently operates on APN 107-070-047. Manholes are poured in molds on a concrete pad. The employees parked their cars on and off the asphalt in the surrounding area and a portable storage area was also located near the vessels.

In addition to the Manhole Builders activities, two piles of material were located on APN 107-070-047. The piles are left over from recycling processing that occurred on the parcel. One pile consisted of refuse removed from processed recyclables. A small pile of pumice was also located near the pile of recyclables.

The second pile on APN 107-070-047 contains broken down recyclable materials. The pile consisted largely of small pieces of broken glass from broken bottles and other glass sources such as car windows, but also contains refuse such as bottle tops and small scraps of trash. The piles were not accessed by anyone during the site inspection and TBSA Phase II sampling event. In the event that the City of Corona Redevelopment Agency leases the Site, the City of Corona Redevelopment Agency will remove the piles before subletting the property.

**APN 107-070-037**

There was no industrial or commercial activity noted on APN 107-070-037 during the site inspection or TBSA Phase II sampling event. APN 107-070-037 is mostly bare soil with some vegetation and a stand of palm trees. Fragments of broken glass, similar to those observed at APN 107-070-047, were observed on the unpaved road.

The APN 107-070-046 is the location of the Corona Truck Salvage business which currently is no longer operating on the site. The parcel contains two canopied areas. One canopied area is partially paved by asphalt and concrete and contains an underground service bay used to service trucks. Equipment such as forklifts and wood planks were stored underneath the canopy. The second canopied area was being used to store trucks and bulldozers as observed during the site inspection. The canopied area was partially paved with concrete. APN 107-070-046 also contained an office building.

## **2.4 HISTORY OF SITE USE**

### **2.4.1 Sources and Methods**

The objective of consulting historical sources is to develop a history of the previous uses and/or occupancies of the properties and surrounding areas. The history of previous uses should extend from the present back to 1940 or until a time when the property was not yet developed, whichever is earlier, in order to identify those uses or occupancies that are likely to have led to recognized environmental conditions in connection with the property. Following is a summary of the historical information discussed further in this section.

### **2.4.2 Historical Maps**

Historical topographic maps dated 1902, 1947, 1967, 1973, 1982, 1988, and 1997 were reviewed and are available in Appendix B.

In 1902, the topographic map displays the area of the Site as undeveloped. The City of Corona is present and the closest large avenue to the site, Magnolia Avenue, is present. Sherborn Avenue was not developed at this time.

The 1947 topographic map displays the area of the Site as undeveloped. Road structure development in the surrounding area is similar compared with the 1902 topographic map. A large part of the City of Corona has been developed into orchards since 1902. Structures listed in an area called Home Gardens have been constructed to the north of the site.

The 1967 topographic map displays the area of the Site as undeveloped. However, a gravel or dirt road also crosses the site. The city of El Cerrito has begun to develop to the south of the site and the orchards of the City of Corona have expanded since 1947. Several wells have been created to the east and south of the property.

The 1973 topographic map displays part of the Site as disturbed land. This area is located where confirmed gravel operations took place at the site. Both the cities of Corona and El Cerrito have grown since 1967. The road that is now labeled as Atchison is listed as abandoned in the 1967 topographic map.



The 1982 topographic map displays the area of the Site as containing a body of water encompassing the area that was shown as disturbed in the 1973 topographic map. Some land next to the body of water is now listed as disturbed. The road that is now labeled as Sherborn Avenue is listed as abandoned in the 1982 topographic map. Other areas to the south of the site running along Temescal Canyon are also shown as disturbed land. The growth of the cities of Corona and El Cerrito has remained fairly stable around the site.

The 1988 topographic map shows that the body of water shown in the 1982 topographic has shrunk. There is also a smaller body of water shown located in APN 107-070-019 that is no longer present at the Site. The entire area of the Site is now shown as either a body of water or disturbed land in the 1988 topographic map.

The 1997 topographic map shows that the canopied structure located on APN 107-070-046 and the road on APN 107-070-030 have been constructed since 1988. The smaller body of water shown in the 1988 topographic map no longer exists. Two roads leading into the Site off of Sherborn Avenue are also shown on the 1997 topographic map. Many of the orchards formerly located in the City of Corona have been replaced and roads have been built leading to those areas.

### **2.4.3 Aerial Photography**

Aerial photographs assist in identifying the land use of the subject property. Features of the subject property and surrounding properties, such as buildings, bodies of water, etc., may be visible in the aerial photographs. Reviewing a series of years of aerial photographs creates a land use history of the subject property.

WESTON reviewed aerial photographs dating from 1931 through 2002 obtained from Environmental Resources Data, Inc. (EDR) in December 2006. The aerial photographs are in general agreement with the history of development depicted on the topographic maps. Following is a discussion of the aerial photographs reviewed.

#### 1931

There is no activity shown at the Site in the 1931 aerial photograph. A road runs from the north side of the site to the south side of the Site. The areas around the Site are undeveloped.

#### 1938

The Site remains undeveloped in the 1938 aerial photograph. The 1938 aerial photograph shows are nearby orchard to the northeast of the site. Other than the orchard and some road improvements the area around the site remains unchanged.

#### 1953

Several dirt roads cross the Site and some activity on what is now APN 107-070-019 is occurring. The picture quality of the aerial photograph is not good enough to clearly discern what new activity is occurring on the Site.

1968

The Site remains relatively unchanged in the 1968 photograph. The orchards to the northwest of the site have been replaced by two buildings. It also appears that an area to the west of the Site has been cleared although there are no structures in that area.

1977

Gravel mining activities have begun to take place on APNs 107-070-037 and 107-070-047. There is activity occurring on APN 107-070-046 with numerous cars parked on the Site. The road on APN 107-070-030 is developed in the 1977 aerial photograph. The area around the Site also has additional roads.

1990

Lake Hohn has formed where the gravel mining pit was previously located in the 1990 aerial photograph. The Corona Truck Salvage canopy is now visible in APN 107-070-046. The area around the site consists of more residential areas than in 1977.

1994

The Site and surrounding areas remain relatively unchanged in the 1994 aerial photograph with the exception that Lake Hohn has expanded since the 1990 aerial photograph was taken.

2002

In the 2002 aerial photograph, Lake Hohn has shrunk in comparison to the 1994 aerial photograph. There is additional activity in APNs 107-070-019 and 107-070-048. It appears that the wood-chipping operation has begun on APNs 107-070-019 and 107-070-048.

#### **2.4.4 Previous Environmental Investigations**

The Santa Ana Regional Water Quality Board (RWQCB) inspected the Site in 1995. The Santa Ana RWQCB wrote a letter to Bruce Hohn revoking his waiver for disposal of inert waste in May 3, 2002. The majority of the concerns the Santa Ana RWQCB had about the inert waste disposal pertained to property that is not part of the Site. However, the letter stated that the 1995 inspection conducted by the Santa Ana RWQCB showed that “a visual inspection of the wastes being discharged at the site indicates that wastes used for landfilling operations at the site may not all be inert.” The letter does not go into further detail as to the type of non-inert waste that may have been disposed of on the Hohn property or what part of the property the potentially non-inert waste was being disposed of. Another concern was raised as a result of the inspection that B. P. John Recycling, Inc. was operating outside of permitted boundaries. B. P. John Recycling remained permitted to operate on the Site.

### **2.4.5 Site Interview**

Ann Iaali and Keith Person of the Santa Ana RWQCB were contacted in order to discuss the above referenced May 3, 2002 letter sent to Bruce Hohn. Keith Person was interviewed about the Site on March 26, 2007. Keith Person performed inspections at the Bruce Hohn site. He performed the 1995 inspection of the inert waste landfill operated on the Bruce Hohn property. He stated that the “non-inert” waste that was described in the May 2002 letter was concrete washout material that was disposed of into the area that Temescal Creek flows into Lake Hohn. The area that Temescal Creek flows into Lake Hohn is not part of the Site.

Another concern had been that petroleum hydrocarbon contaminated soil may have been disposed of as inert waste. That concern was not confirmed. Mr. Person also stated that B. P. John Recycling, Inc. had been operating within permitted terms.

The manager of the property, Bruce Hohn, outlined the history of the site during a Site interview by telephone on March 20, 2007. Mr. Hohn has been the manager of the property as of 1976. Mr. Hohn did not provide information related to property value, lein searches, and owner information. Lein search and owner information was obtained via an EDR Lein Search report. If property information is required, it must be provided by the user of this Phase I/II TBSA.

APNs 107-070-019 and 107-070-048: The parcels were used from 1988 as a solid waste landfill. Material such as dry wall, asphalt, dirt, rocks, and construction debris was filled into the areas. The exact time that the landfill was filled in is unknown.

B.P. John Recycling, Inc. has been operating on the Site since at least 1995. B.P. John Recycling has operated greenwaste processing and wood-chipping operations. The company no longer conducts greenwaste operations on the Site. Wood chips are taken to incinerator to be burned for fuel. Wood treated with creosol, such as telephone poles, is not processed on the Site.

APNs 107-070-037 and 107-070-047: Gravel mining activities that removed gravel from the area that is currently Lake Hohn were conducted on these parcels from 1971 to 1986.

The solid waste landfill facility was also operated on APNs 107-070-037 and APNs 107-070-047 from 1988 to 2001.

The recyclable material piles located on APN 107-070-047 as discussed in Section 2.3, were deposited after 2001 at an unknown date.

APN 107-070-046: Corona Truck Salvage operated on APN 107-070-046 from 1969 until approximately 10 years ago.

## **2.5 CURRENT AND PAST USES OF ADJOINING PROPERTIES**

There are three manufacturing businesses surrounding the Site to the east and south: All American Asphalt, Vulcan Materials Company Corona Rock and Asphalt, and Robertson’s Ready Mix. There is also a closed landfill, the Corona Disposal Site, to the west of the Site across Sherborn

Avenue. Associated Ready Mix, a facility that treats and/or disposes of liquid and semi-solid wastes from a wide range of activities such as gravel mining, geothermal operations, and ship building also operates to the west of the Site across Sherborn Road.

The eastern portion of the parcels 107-070-037, 107-070-046, 107-070-047, and 107-070-048 are currently undergoing mitigation. The areas undergoing mitigation are overseen by the Santa Ana RWQCB, the Department of the Army, Corps of Engineers, and the California Department of Fish and Game. Remediation activities are scheduled to remove 255,300 cubic yards of waste put into the Temescal Wash area and locate the waste elsewhere on the property.

The closest school is Centennial High School located approximately 1 mile west of the Site. The closest residence is located approximately 0.20 mile from the Site. The closest medical facility is Corona Regional Medical Center which is located 2.8 miles west of the Site.

## SECTION 3 SITE RECONNAISSANCE

### 3.1 SITE INSPECTION

WESTON employees Ben Castellana and Tara Fitzgerald visited the Site on February 19 to February 21, 2007 to conduct the Phase I Site inspection concurrently with the Phase II sampling activities associated with this report. As stated previously, there was a gated fence at the entrance of the APN 107-070-046 that is open during operational hours. APNs 107-070-019 and 107-070-048 were gated and locked the majority of the time but open occasionally to assist wood-chipping operations.

Photographs taken during the Phase I Site visit and Phase II sampling activities are provided in Appendix A.

### 3.2 HAZARDOUS MATERIALS USE

The only hazardous materials observed on-site during the Site visit were various fuels for heavy equipment operation. Heavy machinery includes forklifts used at the Corona Truck Salvage area; wood chippers at the wood-chipping area; and forklifts at the cement works area. WESTON did not observe hazardous materials other than fuel stored on-site during the Site visit. There were two areas where soil staining was visible at the site. Both areas were located in APN 107-070-046. Ash and soot were apparent in an area approximately five feet by 5 feet in between Sherborn Road and the canopied area where truck salvaging previously occurred. Another area near the gate entrance to the Site from Sherborn Road was stained.

### 3.3 ABOVEGROUND AND UNDERGROUND STORAGE TANKS

There is one 500-gallon diesel above ground storage tank (AST) located on the Site at APN 107-070-046. An AST containing waste oil previously existed at the Site at APN 107-070-046. A bermed pad was observed in APN 107-070-046; the pad is consistent with secondary containment for a fuel AST. No evidence was found to suggest that other underground storage tanks or large bulk chemical ASTs were located on-site in past years. The EDR report did not have the Site listed on the leaking underground storage tank (LUST) or underground storage tank (UST) databases.

### 3.4 HAZARDOUS WASTE

Hazardous waste generation is likely limited to the truck salvage activities that occur on APN 107-070-046. Hazardous waste generation may include reclaimed fluids such as oil, diesel fuels, and coolant. WESTON did not identify any hazardous waste on the Site.

### **3.5 WATER SUPPLY**

There is running water on the Site. Three groundwater wells were observed on the Site. The field crew observed several pipes leading from various pads at the Site that appear to lead from wells on site. Bruce Hohn confirmed the existence of the three groundwater wells and stated that the wells provide industrial water for various activities at the site, including dust control. There is a restroom facility located on site that utilizes water from the groundwater wells. The wells are not used for drinking water. The wells are not tested on a regular basis for contaminants.

### **3.6 WASTEWATER**

There were no apparent wastewater collection areas. The Site is fairly flat and most wastewater would be absorbed into the ground. Significant wastewater may run into Lake Hohn.

### **3.7 STORMWATER**

Stormwater for much of the site flows toward Lake Hohn, either by a sheet flow drainage ditch, or engineered piping. Drainage piping has been installed at several locations where water might accumulate in pools. Stormwater in the southeastern portion of parcel 107-70-046 flows toward the south into a drainage ditch along the road.

Two businesses conduct operations in open spaces: Manhole Builders and B. P. John Recycling. B. P. John Recycling operates a wood-chipping facility in an area that may release wood debris into stormwater flow. During site reconnaissance, there was no product or debris observed in the area that Manhole Builders operates that could be released into stormwater.

### **3.8 AIR EMISSIONS**

The South Coast Air Quality Management Department has issued a permit for gasoline storage for this site. Heavy equipment is located on the Site that may function as air emission sources.

### **3.9 PCB-CONTAINING EQUIPMENT**

There were no transformers or other potential PCB containing equipment on the Site.

### **3.10 RADON**

Radon comes from the natural radioactive breakdown of uranium in soil, rock and water and is released into respirable air. It can potentially enter homes, offices, and schools - and result in a high indoor radon level (EPA, 2005b). The EDR report indicates that the EPA tested for radon at 12 sites in the zone in which the Site is located. Living areas on the first floor showed average activity at 0.117 picoCuries per liter (pCi/L). Living areas on the second floor showed average activity at 0.450 pCi/L. Average activity in basements as 0.17 pCi/L. "The average indoor radon level is estimated to be about 1.3 pCi/L, and about 0.4 pCi/L of radon is normally found in the outside air. The U.S. Congress has set a long-term goal that indoor radon levels be no more than outdoor levels. While this goal is not yet technologically achievable in all cases, most homes today *can* be reduced to 2 pCi/L or below." (EPA, 2005b).

### **3.11 BUSINESS ENVIRONMENTAL RISKS**

This report did not include consideration of non-CERCLA related business risks that were outside the scope of the Phase I ESA, including but not limited to:

- Indoor air quality;
- Wetlands;
- Regulatory compliance;
- Ecological resources;
- Endangered species;
- High-voltage power lines
- Lead-based paint
- Lead in drinking water;
- Industrial hygiene;
- Health and safety; and
- Cultural and historic resources.

## SECTION 4

### RECORDS REVIEW

#### 4.1 STANDARD ENVIRONMENTAL RECORD SOURCES

As part of this assessment, WESTON relied on an electronic search of the standard environmental record sources conducted by EDR to identify environmental concerns at or near the subject property in accordance with ASTM guidelines (EDR, 2006). EDR conducted its search on December 19, 2006. This section summarizes the results of the database search for the subject property and surrounding properties. For a complete listing of all the properties included in the federal or state records refer to the EDR report in Appendix C. The following is a brief description of some of the databases searched:

- **National Priorities List (NPL):** The NPL is a listing of over 1,200 sites that are uncontrolled or abandoned hazardous waste sites targeted for priority remedial action under the Superfund Program.
- **Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS):** The CERCLIS list identifies potential hazardous waste sites that were reported to EPA. The EPA has investigated or is currently investigating these sites for a release or threatened release of hazardous substances.
- **Resource Conservation and Recovery Act (RCRA) Information System - Treatment, Storage, and Disposal Facilities (RCRIS-TSD), Small Quantity Generator (RCRIS-SQG) and Large Quantity Generator (RCRIS-LQG):** The RCRA facilities database is a compilation of facilities that have notified EPA that they generate, transport, store, or dispose of hazardous wastes. LQGs generate at least 1,000 kilograms per month (kg/month) of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste. SQGs generate less than 1,000 kg/month of non-acutely hazardous waste.
- **Corrective Action Report (CORRACTS):** The CORRACTS database identifies hazardous waster handlers with RCRA corrective action activity.
- **Emergency Response Notification System (ERNS):** ERNS is a national database of reported releases of oil and hazardous substances. Spill reports from EPA, the United States Coast Guard, the National Response Center, and the United States Department of Transportation (DOT) are the sources for this information.
- **California Solid Waste Facilities/Landfill Sites (SWF/LF):** The SWF/LF is a state database containing an inventory of solid waste disposal facilities or landfills in a



particular state, they may be active, inactive, or open dumps that failed to meet RCRA criteria.

- **California State Leaking Underground Storage Tank Report (LUST):** The LUST Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.
- **Cortese:** The Cortese database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remediation, sites with USTs having a reportable release and all solid waste disposal facilities from which there was known migration. The source is the California Environmental Protection Agency/Office of Emergency Information.
- **EnviroStor:** The California Environmental Department of Toxic Substances Control Site Mitigations and Brownfields Reuse Programs EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites; State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School Sites.

WESTON followed standard practice (as defined by ASTM) in the review of regulatory agency materials. This process allows the identification of facilities of potential environmental concern at distances commensurate with their potential risk to the subject property. These risk/distance relationships are summarized as follows:

- **One-mile radius from the subject property:** Federal NPL, proposed NPL, delisted NPL, CORRACTS, sites that have been investigated under CERCLIS by the State of Hawaii, Superfund consent decree sites, record of decision (ROD) sites, Department of Defense (DOD) sites, and Coal Gas sites.
- **One-half mile radius from the subject property:** CERCLIS, RCRIS-TSD, landfill sites, VCP, leaking underground storage tank (LUST) sites, and Brownfields sites.
- **One-quarter mile radius from the subject property:** CERCLIS-No Further Action (NFRAP) sites, RCRIS-SQG, RCRIS-LQG, UST sites, and mines opened or active since 1971,
- **Subject property:** ERNS, Facility Index System/Facility Identification Initiative Program Summary Report (FINDS), Hazardous Materials Information Reporting Systems (HMIRS), Material Licensing Tracking System (MLTS), NPL Liens, PCB Activity Database System (PADS), RCRA Administrative Action Tracking System (RAATS), Toxic Chemical Release Inventory System (TRIS), Toxic Substances Control Act (TSCA),

sites that are registered pesticide-producing establishments, sites that have administrative cases of pesticide enforcement actions and compliance activities, and sites with reports hazardous spills.

#### **4.1.1 Federal Databases**

##### *4.1.1.1 NPL and Proposed NPL*

No NPL or proposed NPL sites are located within a one-mile radius of the Site.

##### *4.1.1.2 CERCLIS*

There are two properties within a 0.5 mile radius that are listed in the CERCLIS database: Advanced Fuels Filtration Systems, and Sherborn Magnolia Drum Site. An unspecified removal occurred at the Advanced Fuels Filtration Systems property. The status of the Advanced Fuels Filtration Systems property in CERCLIS is “cleaned up.” The Sherborn Magnolia Drum Site was an abandoned drum area. The status of the Sherborn Magnolia Drum Site in CERCLIS is “cleaned up.”

##### *4.1.1.3 CERCLIS-NFRAP*

The CERCLIS-NFRAP contains information pertaining to sites removed from the CERCLIS database. NFRAP sites may be sites where, following an internal investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund Action or NPL consideration.

No CERCLIS-NFRAP sites are identified within a 0.5-mile radius of the Site.

##### *4.1.1.4 CORRACTS*

The CORRACTS list identifies RCRA facilities that are undergoing corrective actions pursuant to RCRA Section 308 due to the release of hazardous waste constituents to the environment.

No CORRACTS sites are identified within a one-mile radius of the subject property.

#### 4.1.1.4 RCRA (RCRIS-TSD, RCRIS-SQG, and RCRIS-LQG) Facilities and Generators

No TSD facilities are listed within a one-mile radius from the City of Corona site. Vulcan Materials Company Corona is listed in RCRIS-SQG. No violations were reported in the RCRIS-SQG database.

#### 4.1.1.5 ERNS

The Site is not listed on the ERNS database.

### 4.1.2 State Databases

#### 4.1.2.1 California State Solid Waste Facility/Land Fill (SWF/LF)

The subject property did appear in one database searched by EDR. B.P. John Recycling, Inc. operates on APNs 107-070-019 and 107-070-048. The Company is listed in the SWF/LF list. B. P. John Recycling was listed as an orphan site. There was no additional information given in the EDR Radius Map other than the name of the business and the fact that it was listed in the SWL/LF database.

The Corona Disposal Site is listed in the SWF/LF database. The Corona Disposal Site is a closed municipal landfill managed by the County of Riverside Waste Management Department.

#### 4.1.2.2 California State LUSTs List

Three properties within a 0.5-mile search radius of the subject property are listed on the California State LUST database.

- **CAMCO Construction:** Gasoline containing MTBE was spilled into soil via a leaking pipe. The drinking water aquifer was not deemed affected. The status of the case is “closed.”
- **Down’s Oil:** It was discovered that diesel fuel had been leaking from a UST when the tank was being removed. The drinking water aquifer was affected. The status of the case is “closed.”
- **Edwards Auto Wrecking:** It was discovered that gasoline containing MTBE had been leaking from a UST when the tank was being removed. It is unknown whether the drinking water aquifer was affected. The status of the case is “closed.”

#### 4.1.2.3 Cortese

Three properties within a 0.25-mile search radius are listed in the Cortese Database. They are: CAMCO Construction, Down's Oil, and Edwards Auto Wrecking.

#### 4.1.2.4 Waste Management Unit Database System(WMUDS/SWAT)

CAMCO Construction is listed in the WMUDS/SWAT list. The primary waste generated by CAMCO Construction is solid waste.

#### 4.1.2.5 EnviroStor

There are four properties listed in the ENVIROSTOR database within a one-mile radius of the Site.

- **Rich Manufacturing Company** A Preliminary Assessment was completed for Rich Manufacturing Company in 1998. The Preliminary Assessment assessed that the property is low priority based on historical operations and disposal methods.
- **H&E Engineering:** A Site Screening was performed at the H&E Engineering property in 1994 based on a claim that poisonous chemicals were being disposed of in the septic tank. The H&E Engineering property was referred to another agency.
- **Centennial High School Expansion:** A Preliminary Endangerment Assessment Report was completed for the school site. No further action was warranted.
- **Former IMCO Waste Disposal Area:** The California EPA Department of Toxic Substance Control entered into a Voluntary Clean-up Agreement with the owners of the property to remediate soil contaminated with metals. The voluntary cleanup is not complete.

## SECTION 5

### ASSESSMENT ACTIVITIES

As discussed in Section 1.1, the City of Corona Redevelopment Agency plans to sublease the Site in order to relocate various industrial businesses. The TBSA was performed in order to determine whether contaminants are present in on-site soils that may pose a threat to human health and would need to be addressed before the City of Corona Redevelopment Agency could relocate industrial business to the Site. Soil sample locations were biased in order to maximize the potential to find contaminated areas that may exist on the property.

To determine whether site soils have been impacted from historic use of hazardous substances, WESTON collected surface soil samples and subsurface soil samples from 29 locations. Sampling locations were determined in the field based upon accessibility and visible signs of contamination (e.g., stained soils). Barring any visible signs of contamination, samples were collected based upon site activities within the soil sampling area. In cases where no known activities were conducted within the soil sampling area, soil samples were collected at random locations within the soil sampling area.

Soil samples were collected on February 20, 2007 and February 21, 2007 with a truck mounted Geoprobe® direct push drill rig operated by BC2 Environmental of Fullerton California. Final collection of samples was performed using dedicated plastic trowels and placed into labeled glass jars to be analyzed for metals cadmium, total chromium, lead, nickel, and zinc as well as total petroleum hydrocarbons (TPH) as diesel and motor oil analysis. Soil samples collected for TPH as gasoline and volatile organic compound (VOC) analyses were collected in ESS Lock N' Load® Syringes and stored in preserved vials. Three 5-gram volumes were collected for each analysis. One 5-gram volume was stored in methanol and two 5-gram volumes were stored in sodium bisulphate. Methanol is an appropriate preservative for soil samples with high contaminant content, while sodium bisulphate is a suitable preservative for samples that have lower contaminant concentration and allows for a lower detection limit. As there was limited information about the Site, it was deemed prudent to preserve each sample in both preservatives.

Ten percent of soil samples were analyzed for semi-volatile organic compounds (SVOCs), particularly polyaromatic hydrocarbons (PAHs). Soil samples with the highest concentrations of TPH as motor oil were selected to analyze for SVOCs as the presence of SVOCs, specifically the PAHs, can be associated with the presence of TPH as motor oil.

Surface samples were collected from 0 to 0.5 feet bgs. Sample numbers were designated with the suffix "A" to identify the samples as surface soil. Subsurface soil samples were collected from 1.5 to 2 feet bgs. Subsurface sample numbers were designated with the suffix "B"

WESTON surveyed the sampling locations using a Trimble ProXR Global Positioning System (GPS) device. The final sampling locations at the Site are shown in Figures 5-1. All sampling procedures followed protocol outlined in WESTON's City of Corona Phase I/II TBSA Sampling and Analysis Plan (SAP) (WESTON, 2007) with the following exceptions:

- Soil collected for VOC and TPH as gas analysis was stored in preserved vials, as stated above, instead of being shipped to the laboratory in the ESS Lock N' Load Syringes. The soil samples were preserved in order to extend the holding time for the samples from 48 hours to 7 days.
- A total of 31 soil samples were originally scheduled to be collected at the Site. However, upon arrival at the Site, it was apparent that the Site boundary does not extend as far to the southeast as originally anticipated. Two samples originally slated to be collected in that area were not collected.

On February 20, 2007 and February 21, 2007, WESTON collected 64 soil samples (58 field samples, 6 field duplicates) from 29 sampling locations at the Site. The predominant soil type at the site is a medium brown sandy soil with varying amounts of silt and gravel. Gravel clasts are predominantly granitoid, and likely derived from the surrounding outcrops.





0 400  
Scale in Feet

● Sample Location



Sample Location Map  
City of Corona Site  
Corona, California

Figure  
**5-1**



## SECTION 6

### RESULTS

Soil samples were analyzed by Curtis & Tompkins Laboratory in Berkeley, California. Soil samples collected were analyzed for total petroleum hydrocarbons (TPH) (EPA SW-846 Method 8015); gasoline range organics, diesel range organics, and motor oil; volatile organic compounds (VOCs) (EPA SW-846 Method 8021); semivolatile organic compounds (SVOCs) (EPA SW-846 Method 8270), cadmium, chromium, lead, nickel, and zinc (EPA SW-846 Method 6010B). All data generated was deemed to be of acceptable quality and underwent no further validation.

Analytical data for the analytes of concern (AOC) was compared to action levels determined from either the EPA Region 9 Preliminary Remediation Goals (PRGs) for industrial soils. PRGs are not available for TPH as gasoline or TPH and diesel and motor oil; therefore, TPH results were compared to RWQCB – San Francisco Bay Region Environmental Screening Levels (ESLs) – 1996 for protection of groundwater and the environment. ESLs were selected because the RWQCB – Central Valley Region (the lead regulatory agency at the Site) does not provide ESLs for the Central Valley Region. Chemical concentrations above these levels do not automatically indicate that a response action is necessary. Likewise, chemical concentrations below these levels may require future action upon the development of more appropriate site-specific action levels. A summary of the significant results are presented in Section 6.1. Complete copies of the data are included in Appendix D.

### 6.1 Soil Sampling Results

#### 6.1.1 Metal Results

Sample results for metals are shown in Table 6-1. Soil samples collected at each sampling location and at both surface and subsurface levels were analyzed for the metals, cadmium, total chromium, lead, nickel, and zinc. Cadmium was detected in 26 samples at concentrations ranging from 0.27 milligram per kilogram (mg/kg) to 4.8 mg/kg. Cadmium was detected in all samples at a concentration well below the action level of 450 mg/kg. Chromium was detected in all samples at a concentration ranging from 3.6 mg/kg to 300 mg/kg. Chromium was detected in all samples at a concentration below the action level of 450 mg/kg. Lead was detected in all samples at a concentration ranging from 2.6 mg/kg to 150 mg/kg. Lead was detected in all samples at a concentration well below the action level of 800 mg/kg. Nickel was detected in all samples at a concentration ranging from 2.8 mg/kg to 250 mg/kg. Nickel was detected in all samples at a concentration below the action level of 20,000 mg/kg. Zinc was detected in all samples at a



concentration ranging from 20 mg/kg to 770 mg/kg. Zinc was detected in all samples at a concentration below the action level of 100,000 mg/kg.

### **6.1.2 Total Petroleum Hydrocarbon Results**

Sample results for TPH are shown in Table 6-2. TPH as motor oil was detected in 48 of the 58 soil samples collected at the Site at concentrations ranging from 6.5 mg/kg to 18,000 mg/kg. Three samples exceeded the action level of 1,000 mg/kg: CC-046-03-A, CC-046-05-A, and CC-046-16-A. The three samples that exceeded the action level had concentrations of TPH as motor oil of 1,600 mg/kg, 1,600 mg/kg, and 18,000 mg/kg.

TPH-diesel was detected in 49 of the 58 soil samples ranging from 1.3 mg/kg to 3,700 mg/kg. Two samples exceeded the action level of 500 mg/kg: CC-046-03-A and CC-046-05A. The samples exceeded action levels at concentrations of 3,700 mg/kg and 930 mg/kg, respectively. The laboratory reports that all of the samples showed a chromatographic pattern that did not resemble the fuel standard used for quantitation.

TPH as gasoline was detected in 2 of the 58 soil samples collected at the Site at concentrations ranging from 0.28 mg/kg to 0.37 mg/kg. No samples exceeded the action level set for TPH as gasoline of 400 mg/kg.

### **6.1.3 Volatile Organic Compounds Results**

Sample results for VOCs are shown in Table 6-3. Only soil samples taken at 2 feet bgs were analyzed for VOCs. Trichloroethene, tetrachloroethene, ethylbenzene, and total xylenes were not detected in any of the soil samples analyzed for VOCs. Benzene was detected in one sample at a concentration of 35 mg/kg. The action level for benzene is 1,400 mg/kg. Toluene was detected in one soil sample at 15 mg/kg. The action level for Toluene is 520,000 mg/kg.

Acetone was detected in 22 of 29 samples analyzed for VOCs at a range of concentrations from 22 mg/kg to an estimated value of 180 mg/kg. The values for six of the samples with the highest concentration of acetone are estimated because they were detected at values outside of the calibration range of acetone standards used for quantitation. However, the Preliminary Remediation Goal for acetone in industrial soil is 54,000,000 mg/kg.

2-Butanone (methyl ethyl ketone) was detected in 14 of 29 samples analyzed for VOCs at a range of concentrations from 7.8 mg/kg to 40 mg/kg. The PRG for 2-butanone in industrial soil is 11,000,000 mg/kg.

Carbon disulfide was detected in one sample at a concentration of 8.1 mg/kg. The PRG for carbon disulfide in industrial soil is 720,000 mg/kg.

#### **6.1.4 Polyaromatic Hydrocarbon Results**

Sample results for SVOCs are shown in Table 6-4. A total of seven soil samples with the highest values of TPH as motor oil were selected for SVOC analysis. The target polyaromatic hydrocarbons were not detected in all 7 samples. Butylbenzylphthalate was detected in one sample at 0.720 mg/kg. The PRG for Butylbenzylphthalate in industrial soil is 100,000 mg/kg. Bis(2-ethylhexyl)phthalate was detected in one sample at 4.6 mg/kg. The PRG for Bis(2-ethylhexyl)phthalate in industrial soil is 120 mg/kg.

The reporting limits benzo(a)anthracene, benzo(a)pyrene, and naphthalene were above set action levels for three of the samples analyzed for SVOCs. The reporting limits for these samples had to be raised because the samples required dilution of up to 40 times. The raised reporting limits were within one order of magnitude of action levels for benzo(a)anthracene and naphthalene and within two orders of magnitude of the action level for benzo(a)pyrene

**Table 6-1**  
**Summary of Metals Analytical Data - Soil**  
**City of Corona Site**  
**Corona, California**  
**(Reported in milligrams/kilogram)**

Sample Number	Depth (feet)	Location	Cadmium	Total Chromium	Lead	Nickel	Zinc
<b>Action Levels</b>	<b>PRGs (mg/kg)</b>		<b>450</b>	<b>450</b>	<b>800</b>	<b>20,000</b>	<b>100,000</b>
CC-019-01-A	0 - 0.5	APN 107-070-019	ND (0.25)	9.4	7.9	6.5	34
CC-019-01-B	1.5 - 2	APN 107-070-019	ND (0.25)	7.8	42	3.3	37
CC-048-01-A	0 - 0.5	APN 107-070-048	ND (0.25)	5.4	2.6	3.8	27
CC-048-01-B	1.5 - 2	APN 107-070-048	ND (0.25)	4.0	8.4	2.8	27
CC-048-02-A	0 - 0.5	APN 107-070-048	0.28	15	15	12	68
CC-048-02-B	1.5 - 2	APN 107-070-048	ND (0.25)	16	9.5	11	47
CC-048-03-A	0 - 0.5	APN 107-070-048	ND (0.25)	4.9	7.3	5.6	31
CC-048-03-B	1.5 - 2	APN 107-070-048	ND (0.25)	4.1	5.3	5.1	21
CC-048-04-A	0 - 0.5	APN 107-070-048	ND (0.25)	4.8	5.9	5.6	26
CC-048-04-B	1.5 - 2	APN 107-070-048	ND (0.25)	3.6	4.6	4.8	20
CC-048-05-A	0 - 0.5	APN 107-070-048	0.27	17	15	9.2	56
CC-048-05-B	1.5 - 2	APN 107-070-048	ND (0.25)	16	22	8.3	46
CC-047-01-A	0 - 0.5	APN 107-070-047	0.83	13	10	8.3	100
CC-047-01-B	1.5 - 2	APN 107-070-047	0.41	7.9	3.8	6.7	42
CC-047-02-A	0 - 0.5	APN 107-070-047	0.97	8.0	48	10	630

**Table 6-1**  
**Summary of Metals Analytical Data - Soil**  
**City of Corona Site**  
**Corona, California**  
**(Reported in milligrams/kilogram)**

Sample Number	Depth (feet)	Location	Cadmium	Total Chromium	Lead	Nickel	Zinc
<b>Action Levels</b>	<b>PRGs (mg/kg)</b>		<b>450</b>	<b>450</b>	<b>800</b>	<b>20,000</b>	<b>100,000</b>
CC-047-02-B	1.5 - 2	APN 107-070-047	0.77	14	10	8.3	90
CC-047-03-A	0 - 0.5	APN 107-070-047	1.1	12	47	12	280
CC-047-03-B	1.5 - 2	APN 107-070-047	0.65	11	9.4	6.9	81
CC-037-01-A	0 - 0.5	APN 107-070-037	0.32	15	5.6	12	51
CC-037-01-B	1.5 - 2	APN 107-070-037	0.32	27	55	44	380
CC-037-02-A	0 - 0.5	APN 107-070-037	ND (0.25)	11	9.0	12	65
CC-037-02-B	1.5 - 2	APN 107-070-037	0.31	12	14	19	81
CC-046-01-A	0 - 0.5	APN 107-070-046	ND (0.25)	13	12	9.5	55
CC-046-01-B	1.5 - 2	APN 107-070-046	ND (0.25)	14	8.3	10	43
CC-046-02-A	0 - 0.5	APN 107-070-046	0.33	11	16	7.5	67
CC-046-02-B	1.5 - 2	APN 107-070-046	ND (0.25)	9.4	18	6.5	47
CC-046-03-A	0 - 0.5	APN 107-070-046	0.27	12	12	8.9	110
CC-046-03-B	1.5 - 2	APN 107-070-046	ND (0.25)	7.4	11	5.1	47
CC-046-04-A	0 - 0.5	APN 107-070-046	2.5	300	19	250	580
CC-046-04-B	1.5 - 2	APN 107-070-046	ND (0.25)	8.2	4.0	5.5	43

**Table 6-1**  
**Summary of Metals Analytical Data - Soil**  
**City of Corona Site**  
**Corona, California**  
**(Reported in milligrams/kilogram)**

Sample Number	Depth (feet)	Location	Cadmium	Total Chromium	Lead	Nickel	Zinc
<b>Action Levels</b>	<b>PRGs (mg/kg)</b>		<b>450</b>	<b>450</b>	<b>800</b>	<b>20,000</b>	<b>100,000</b>
CC-046-05-A	0 - 0.5	APN 107-070-046	ND (0.25)	9.3	10	9.3	42
CC-046-05-B	1.5 - 2	APN 107-070-046	ND (0.25)	7.1	5.4	5.6	24
CC-046-06-A	0 - 0.5	APN 107-070-046	0.41	12	21	7.7	150
CC-046-06-B	1.5 - 2	APN 107-070-046	ND (0.25)	6.6	3.3	4.2	60
CC-046-07-A	0 - 0.5	APN 107-070-046	4.8	26	120	16	770
CC-046-07-B	1.5 - 2	APN 107-070-046	0.33	5.7	150	3.8	52
CC-046-08-A	0 - 0.5	APN 107-070-046	ND (0.25)	7.9	6.5	5.4	41
CC-046-08-B	1.5 - 2	APN 107-070-046	ND (0.25)	6.1	2.6	3.0	23
CC-046-09-A	0 - 0.5	APN 107-070-046	ND (0.25)	19	11	13	53
CC-046-09-B	1.5 - 2	APN 107-070-046	ND (0.25)	15	5.5	10	40
CC-046-10-A	0 - 0.5	APN 107-070-046	ND (0.25)	9.7	12	10	45
CC-046-10-B	1.5 - 2	APN 107-070-046	ND (0.25)	6.3	2.7	3.7	23
CC-046-11-A	0 - 0.5	APN 107-070-046	0.28	14	13	6.4	55
CC-046-11-B	1.5 - 2	APN 107-070-046	0.33	11	11	8.4	58
CC-046-12-A	0 - 0.5	APN 107-070-046	1.2	11	12	6.3	100

**Table 6-1**  
**Summary of Metals Analytical Data - Soil**  
**City of Corona Site**  
**Corona, California**  
**(Reported in milligrams/kilogram)**

Sample Number	Depth (feet)	Location	Cadmium	Total Chromium	Lead	Nickel	Zinc
<b>Action Levels</b>	<b>PRGs (mg/kg)</b>		<b>450</b>	<b>450</b>	<b>800</b>	<b>20,000</b>	<b>100,000</b>
CC-046-12-B	1.5 - 2	APN 107-070-046	ND (0.25)	8.3	5.1	5.7	44
CC-046-14-A	0 - 0.5	APN 107-070-046	0.47	7.8	12	5.1	100
CC-046-14-B	1.5 - 2	APN 107-070-046	ND (0.25)	7.7	6.1	5.9	42
CC-046-15-A	0 - 0.5	APN 107-070-046	0.33	21	10	11	39
CC-046-15-B	1.5 - 2	APN 107-070-046	2.0	7.5	59	4.4	470
CC-046-16-A	0 - 0.5	APN 107-070-046	ND (0.25)	4.0	4.2	6.4	26
CC-046-16-B	1.5 - 2	APN 107-070-046	ND (0.25)	7.6	14	5.4	43
CC-046-17-A	0 - 0.5	APN 107-070-046	0.43	5.5	6.7	11	51
CC-046-17-B	1.5 - 2	APN 107-070-046	0.36	7.8	6.8	12	68
CC-046-18-A	0 - 0.5	APN 107-070-046	ND (0.25)	5.0	3.5	4.1	29
CC-046-18-B	1.5 - 2	APN 107-070-046	ND (0.25)	7.6	5.5	5.9	41
CC-046-19-A	0 - 0.5	APN 107-070-046	0.40	15	13	8.4	79
CC-046-19-B	1.5 - 2	APN 107-070-046	ND (0.25)	9.8	18	6.4	57

ND(#) = Analyte is non-detect, number in ( ) is quantitation limit

mg/kg = milligram per kilogram

PRGs = United States Environmental Protection Agency - Region 9 Preliminary Remediation Goals for Industrial Soil (October 2004) [Federal PRG/California modified PRG]

**Table 6-2**  
**Summary of Petroleum Hydrocarbon Analytical Data - Soil**  
**City of Corona Site**  
**Corona, California**  
**(Reported in milligrams/kilogram)**

Sample Number	Depth (feet)	Location	TPH- diesel	TPH- motor oil	TPH- gasoline
	ESLs (mg/kg)		500	1,000	400
CC-019-01-A	0 - 0.5	APN 107-070-019	ND (1.0)	ND (5.0)	ND (0.23)
CC-019-01-B	1.5 - 2	APN 107-070-019	3.6	93	ND (0.23)
CC-048-01-A	0 - 0.5	APN 107-070-048	3.6	19	ND (0.24)
CC-048-01-B	1.5 - 2	APN 107-070-048	30	120	ND (0.18)
CC-048-02-A	0 - 0.5	APN 107-070-048	13	110	ND (0.32)
CC-048-02-B	1.5 - 2	APN 107-070-048	12	16	ND (0.23)
CC-048-03-A	0 - 0.5	APN 107-070-048	5.1	40	ND (0.33)
CC-048-03-B	1.5 - 2	APN 107-070-048	ND (1.0)	ND (5.0)	ND (0.22)
CC-048-04-A	0 - 0.5	APN 107-070-048	1.4	12	ND (0.16)
CC-048-04-B	1.5 - 2	APN 107-070-048	1.5	34	ND (0.21)
CC-048-05-A	0 - 0.5	APN 107-070-048	440	570	ND (5.0)



**Table 6-2**  
**Summary of Petroleum Hydrocarbon Analytical Data - Soil**  
**City of Corona Site**  
**Corona, California**  
**(Reported in milligrams/kilogram)**

Sample Number	Depth (feet)	Location	TPH- diesel	TPH- motor oil	TPH- gasoline
	ESLs (mg/kg)		500	1,000	400
CC-048-05-B	1.5 - 2	APN 107-070-048	34	170	ND (0.21)
CC-047-01-A	0 - 0.5	APN 107-070-047	120	450	ND (0.27)
CC-047-01-B	1.5 - 2	APN 107-070-047	40	150	ND (0.27)
CC-047-02-A	0 - 0.5	APN 107-070-047	53	320	ND (0.41)
CC-047-02-B	1.5 - 2	APN 107-070-047	100	330	ND (0.25)
CC-047-03-A	0 - 0.5	APN 107-070-047	120	600	ND (0.28)
CC-047-03-B	1.5 - 2	APN 107-070-047	130	490	ND (0.26)
CC-037-01-A	0 - 0.5	APN 107-070-037	2.9	36	ND (0.26)
CC-037-01-B	1.5 - 2	APN 107-070-037	150	670	ND (0.25)
CC-037-02-A	0 - 0.5	APN 107-070-037	19	140	ND (0.23)
CC-037-02-B	1.5 - 2	APN 107-070-037	2.8	27	ND (0.21)

**Table 6-2**  
**Summary of Petroleum Hydrocarbon Analytical Data - Soil**  
**City of Corona Site**  
**Corona, California**  
**(Reported in milligrams/kilogram)**

Sample Number	Depth (feet)	Location	TPH-diesel	TPH-motor oil	TPH-gasoline
	ESLs (mg/kg)		500	1,000	400
CC-046-01-A	0 - 0.5	APN 107-070-046	2.9	33	0.37
CC-046-01-B	1.5 - 2	APN 107-070-046	ND (1.0)	10	ND (0.21)
CC-046-02-A	0 - 0.5	APN 107-070-046	12	110	ND (0.27)
CC-046-02-B	1.5 - 2	APN 107-070-046	2.0	13	ND (0.21)
CC-046-03-A	0 - 0.5	APN 107-070-046	<b><u>3,700</u></b>	<b><u>18,000</u></b>	ND (0.21)
CC-046-03-B	1.5 - 2	APN 107-070-046	21	110	ND (0.21)
CC-046-04-A	0 - 0.5	APN 107-070-046	23	57	ND (0.21)
CC-046-04-B	1.5 - 2	APN 107-070-046	ND (1.0)	ND (5.0)	ND (0.26)
CC-046-05-A	0 - 0.5	APN 107-070-046	<b><u>930</u></b>	<b><u>1,600</u></b>	ND (0.25)
CC-046-05-B	1.5 - 2	APN 107-070-046	3.9	11	ND (0.23)
CC-046-06-A	0 - 0.5	APN 107-070-046	17	65	ND (0.17)

**Table 6-2**  
**Summary of Petroleum Hydrocarbon Analytical Data - Soil**  
**City of Corona Site**  
**Corona, California**  
**(Reported in milligrams/kilogram)**

Sample Number	Depth (feet)	Location	TPH- diesel	TPH- motor oil	TPH- gasoline
	ESLs (mg/kg)		500	1,000	400
CC-046-06-B	1.5 - 2	APN 107-070-046	ND (1.0)	ND (5.0)	ND (0.27)
CC-046-07-A	0 - 0.5	APN 107-070-046	43	150	ND (0.21)
CC-046-07-B	1.5 - 2	APN 107-070-046	11	63	ND (0.24)
CC-046-08-A	0 - 0.5	APN 107-070-046	7.9	150	ND (0.24)
CC-046-08-B	1.5 - 2	APN 107-070-046	ND (1.0)	ND (5.0)	ND (0.21)
CC-046-09-A	0 - 0.5	APN 107-070-046	7.6	31	ND (0.28)
CC-046-09-B	1.5 - 2	APN 107-070-046	29	75	ND (0.26)
CC-046-10-A	0 - 0.5	APN 107-070-046	53	620	ND (0.29)
CC-046-10-B	1.5 - 2	APN 107-070-046	2.8	27	ND (0.19)
CC-046-11-A	0 - 0.5	APN 107-070-046	75	730	ND (0.22)
CC-046-11-B	1.5 - 2	APN 107-070-046	1.1	ND (5.0)	ND (0.21)

**Table 6-2**  
**Summary of Petroleum Hydrocarbon Analytical Data - Soil**  
**City of Corona Site**  
**Corona, California**  
**(Reported in milligrams/kilogram)**

Sample Number	Depth (feet)	Location	TPH- diesel	TPH- motor oil	TPH- gasoline
	ESLs (mg/kg)		500	1,000	400
CC-046-12-A	0 - 0.5	APN 107-070-046	25	410	ND (0.21)
CC-046-12-B	1.5 - 2	APN 107-070-046	1.3	8.8	ND (0.21)
CC-046-14-A	0 - 0.5	APN 107-070-046	26	420	0.28
CC-046-14-B	1.5 - 2	APN 107-070-046	ND (1.0)	6.5	ND (0.21)
CC-046-15-A	0 - 0.5	APN 107-070-046	400	48	ND (0.29)
CC-046-15-B	1.5 - 2	APN 107-070-046	21	18	ND (0.21)
CC-046-16-A	0 - 0.5	APN 107-070-046	110	<b><u>1,600</u></b>	ND (0.21)
CC-046-16-B	1.5 - 2	APN 107-070-046	13	250	ND (0.27)
CC-046-17-A	0 - 0.5	APN 107-070-046	1.3	11	ND (0.22)
CC-046-17-B	1.5 - 2	APN 107-070-046	1.3	8.7	ND (0.23)
CC-046-18-A	0 - 0.5	APN 107-070-046	ND (1.0)	ND (5.0)	ND (0.24)

**Table 6-2**  
**Summary of Petroleum Hydrocarbon Analytical Data - Soil**  
**City of Corona Site**  
**Corona, California**  
**(Reported in milligrams/kilogram)**

Sample Number	Depth (feet)	Location	TPH- diesel	TPH- motor oil	TPH- gasoline
	ESLs (mg/kg)		<b>500</b>	<b>1,000</b>	<b>400</b>
CC-046-18-B	1.5 - 2	APN 107-070-046	ND (1.0)	7.0	ND (0.26)
CC-046-19-A	0 - 0.5	APN 107-070-046	38	210	ND (0.24)
CC-046-19-B	1.5 - 2	APN 107-070-046	11	130	ND (0.19)

**Bold** and underlined = Analytical result exceeds action level

ESLs = San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels – Commercial/Industrial Land Use Only (February 2005)

mg/kg = milligram per kilogram

ND(#) = Analyte is non-detect, number in ( ) is quantitation limit

PRGs = United States Environmental Protection Agency - Region 9 Preliminary Remediation Goals for Industrial Soil (October 2004)

TPH = Total Petroleum Hydrocarbons

**Table 6-3**  
**Summary of Volatile Organic Compound Analytical Data - Soil**  
**City of Corona Site**  
**Corona, California**  
**(Reported in micrograms/kilogram)**

Sample Number	Depth (feet)	Location	PCE <sup>1</sup>	TCE <sup>1</sup>	Benzene <sup>1</sup>	Toluene <sup>1</sup>	Ethyl benzene <sup>1</sup>	total Xylenes <sup>1</sup>	Acetone <sup>2</sup>	2-Butanone <sup>2</sup>	Carbon Disulfide <sup>2</sup>
<b>Action Levels</b>	<b>PRGs (µg/kg)</b>		<b>1,300</b>	<b>111</b>	<b>1,400</b>	<b>520,000</b>	<b>400,000</b>	<b>420,000</b>	<b>54,000,000</b>	<b>11,000,000</b>	<b>720,000</b>
CC-019-01-B	1.5 - 2	APN 107-070-019	ND (4.7)	ND (4.7)	ND (4.7)	ND (4.7)	ND (4.7)	ND (4.7)	49	ND (9.4)	ND (4.7)
CC-048-01-B	1.5 - 2	APN 107-070-048	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	40	ND (10)	ND (5.1)
CC-048-02-B	1.5 - 2	APN 107-070-048	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	140J	21	8.1
CC-048-03-B	1.5 - 2	APN 107-070-048	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (23)	ND (11)	ND (5.7)
CC-048-04-B	1.5 - 2	APN 107-070-048	ND (4.9)	ND (4.9)	ND (4.9)	ND (4.9)	ND (4.9)	ND (4.9)	35	7.8	ND (4.9)
CC-048-05-B	1.5 - 2	APN 107-070-048	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	48	7.4	ND (5.1)
CC-047-01-B	1.5 - 2	APN 107-070-047	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	23	ND (11)	ND (5.4)
CC-047-02-B	1.5 - 2	APN 107-070-047	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	83J	11	ND (5.4)
CC-047-03-B	1.5 - 2	APN 107-070-047	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (27)	ND (14)	ND (6.8)
CC-037-01-B	1.5 - 2	APN 107-070-037	ND (6.4)	ND (6.4)	35	15	ND (6.4)	ND (6.4)	130J	21	ND (6.4)
CC-037-02-B	1.5 - 2	APN 107-070-037	ND (8.6)	ND (8.6)	ND (8.6)	ND (8.6)	ND (8.6)	ND (8.6)	81	21	ND (8.6)
CC-046-01-B	1.5 - 2	APN 107-070-046	ND (4.1)	ND (4.1)	ND (4.1)	ND (4.1)	ND (4.1)	ND (4.1)	120J	25	ND (4.1)
CC-046-02-B	1.5 - 2	APN 107-070-046	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	31	ND (14)	ND (6.8)
CC-046-03-B	1.5 - 2	APN 107-070-046	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (20)	ND (10)	ND (5.1)
CC-046-04-B	1.5 - 2	APN 107-070-046	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	59	10	ND (5.0)

**Table 6-3**  
**Summary of Volatile Organic Compound Analytical Data - Soil**  
**City of Corona Site**  
**Corona, California**  
**(Reported in micrograms/kilogram)**

Sample Number	Depth (feet)	Location	PCE <sup>1</sup>	TCE <sup>1</sup>	Benzene <sup>1</sup>	Toluene <sup>1</sup>	Ethyl benzene <sup>1</sup>	total Xylenes <sup>1</sup>	Acetone <sup>2</sup>	2-Butanone <sup>2</sup>	Carbon Disulfide <sup>2</sup>
<b>Action Levels</b>	<b>PRGs (µg/kg)</b>		<b>1,300</b>	<b>111</b>	<b>1,400</b>	<b>520,000</b>	<b>400,000</b>	<b>420,000</b>	<b>54,000,000</b>	<b>11,000,000</b>	<b>720,000</b>
CC-046-05-B	1.5 - 2	APN 107-070-046	ND (4.2)	ND (4.2)	ND (4.2)	ND (4.2)	ND (4.2)	ND (4.2)	30	ND (8.5)	ND (4.2)
CC-046-06-B	1.5 - 2	APN 107-070-046	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	30	ND (12)	ND (5.8)
CC-046-07-B	1.5 - 2	APN 107-070-046	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (27)	ND (14)	ND (6.8)
CC-046-08-B	1.5 - 2	APN 107-070-046	ND (6.1)	ND (6.1)	ND (6.1)	ND (6.1)	ND (6.1)	ND (6.1)	ND (24)	ND (12)	ND (6.1)
CC-046-09-B	1.5 - 2	APN 107-070-046	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	180J	40	ND (6.4)
CC-046-10-B	1.5 - 2	APN 107-070-046	ND (4.5)	ND (4.5)	ND (4.5)	ND (4.5)	ND (4.5)	ND (4.5)	ND (18)	ND (9.1)	ND (4.5)
CC-046-11-B	1.5 - 2	APN 107-070-046	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	83J	12	ND (5.4)
CC-046-12-B	1.5 - 2	APN 107-070-046	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	55	13	ND (5.4)
CC-046-14-B	1.5 - 2	APN 107-070-046	ND (3.8)	ND (3.8)	ND (3.8)	ND (3.8)	ND (3.8)	ND (3.8)	25	7.8	ND (3.8)
CC-046-15-B	1.5 - 2	APN 107-070-046	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	24	ND (10)	ND (5.0)
CC-046-16-B	1.5 - 2	APN 107-070-046	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (23)	17	ND (5.8)
CC-046-17-B	1.5 - 2	APN 107-070-046	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	110J	ND (11)	ND (5.7)
CC-046-18-B	1.5 - 2	APN 107-070-046	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	37	ND (13)	ND (6.4)
CC-046-19-B	1.5 - 2	APN 107-070-046	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	54	13	ND (5.0)

J = estimated value

ND(#) = Analyte is non-detect, number in ( ) is quantitation limit

µg/kg = microgram per kilogram



**Table 6-3**  
**Summary of Volatile Organic Compound Analytical Data - Soil**  
**City of Corona Site**  
**Corona, California**  
**(Reported in micrograms/kilogram)**

Sample Number	Depth (feet)	Location	PCE <sup>1</sup>	TCE <sup>1</sup>	Benzene <sup>1</sup>	Toluene <sup>1</sup>	Ethyl benzene <sup>1</sup>	total Xylenes <sup>1</sup>	Acetone <sup>2</sup>	2-Butanone <sup>2</sup>	Carbon Disulfide <sup>2</sup>
<b>Action Levels</b>	<b>PRGs (µg/kg)</b>		<b>1,300</b>	<b>111</b>	<b>1,400</b>	<b>520,000</b>	<b>400,000</b>	<b>420,000</b>	<b>54,000,000</b>	<b>11,000,000</b>	<b>720,000</b>

PRGs = United States Environmental Protection Agency - Region 9 Preliminary Remediation Goals for Industrial Soil (October 2004) [Federal PRG/California modified PRG)

<sup>1</sup> = Original Analyte of Concern

<sup>2</sup> = Analyte detected in at least one sample. An Action level was not originally set for this analyte. The PRG is provided for reference.



## SECTION 7

### CONCLUSIONS AND RECOMMENDATIONS

#### 7.1 SUMMARY FINDINGS AND CONCLUSIONS

WESTON has performed this Phase I and Phase II ESA at the City of Corona site, 1601 Sherborn Road, Corona, CA, in conformance with the scope and limitations of ASTM Standard Practice E-1527-05 and E-2247-02 (2006) and subject to the conditions and limitations noted herein and in the Site Assessment Terms and Conditions attached hereto and made a part hereof. Any exceptions to, or deletions from, this practice are described in Section 7 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the property except for the following: TPH as diesel and motor oil in isolated areas of APN 107-070-046 and metals releases on the Site.

Analytical results indicate that soils in some areas of the Site at up to a depth of 2 feet bgs has been impacted by TPH as diesel and motor oil above action levels. Two samples contained both TPH as diesel and TPH as motor oil above the action levels. TPH as motor oil was detected in one additional sample above the action level. The three samples that exceeded action levels for TPH were all located in APN 107-070-046 where truck salvaging activities had occurred. The sample with the highest concentrations of TPH as diesel and motor oil was located at the outlet pipe of a containment pad. Another sample containing elevated levels of TPH as diesel and motor oil was taken west of the maintenance yard in stained soils. The sample containing an elevated level of TPH as motor oil was taken near a concrete pad that was not being used at the time. All samples containing elevated level of TPH as diesel and/or motor oil were taken at the surface.

Analytical results for metals, VOCs, and SVOCs were all below set action levels. Metals were present in Site soils at elevated levels that were below set action levels. Several VOCs and SVOCs were detected that did not have pre-set action levels. The results for those analytes were compared to the same PRGs for industrial soil that were used to define action levels for the Site Assessment.

All analytes were detected below PRGs for industrial soil with the exception of several PAHs. As discussed in Section 6.4, several samples required dilution in order to be analyzed for PAHs. The detection limit was raised for those samples and in some cases exceeded set action levels for the Site. Samples that had raised detection limits are noted in Table 6-4. In addition, the action level for the PAH benzo(a)pyrene was raised from 0.21 mg/kg to 0.33 mg/kg due to method detection limits. However, PAH contamination correlates with TPH as motor oil contamination. Remediation that addresses TPH as motor oil contamination will also address any PAH contamination overlooked because of analytical restrictions.

## 7.2 DATA GAPS

APNs 107-070-037, 107-070-047, and 107-070-048 along with property that is not located on the Site were operated as a solid waste landfill from 1981 to 1996. The Santa Ana RWQCB wrote a letter to Bruce Hohn revoking his waiver for disposal of inert waste in May 3, 2002. The majority of the concerns the Santa Ana RWQCB had about the inert waste disposal pertained to property that is not part of the Site. However, the letter stated that a 1995 inspection conducted by the Santa Ana RWQCB showed that “a visual inspection of the wastes being discharged at the site indicates that wastes used for landfilling operations at the site may not all be inert.” The letter does not go into further detail as to the type of non-inert waste that may have been disposed of on the Hohn property or what part of the property the potentially non-inert waste was being disposed of.

Ann Iaali and Keith Person of the Santa Ana RWQCB were contacted in order to discuss the above referenced May 3, 2002 letter sent to Bruce Hohn. Keith Person was interviewed about the Site on March 26, 2007. Keith Person performed inspections at the Bruce Hohn site. He performed the 1995 inspection of the inert waste landfill operated on the Bruce Hohn property. He stated that the “non-inert” waste that was described in the May 2002 letter was concrete washout material that was disposed of into the area that Temescal Creek flows into Lake Hohn. The area that Temescal Creek flows into Lake Hohn is not part of the Site.

Another concern Mr. Person raised is that petroleum hydrocarbon contaminated soil may have been disposed of as inert waste. That concern was not confirmed.

## 7.3 OPINIONS

Analytical results indicated that the Site has been impacted by a release of hazardous substances. The hazardous substances released to the Site above Industrial PRGs or ESLs are TPH as diesel and motor oil. TPH as diesel and motor oil have been released in the Corona Truck Salvage area, APN 107-070-046. As all the samples that exceeded action levels for TPH as diesel and/or motor oil were collected at the surface, it is likely that TPH as diesel and motor oil contamination remains at the surface. It does not appear that soils up to a depth of 2 feet bgs are significantly impacted by other analytes of concern such as metals, VOCs, and SVOCs.

## 7.4 RECOMMENDATIONS

Further characterization may be required for soils impacted by TPH as diesel and motor oil in APN 107-070-046 in order to determine the extent of TPH as diesel and motor oil contamination. Based on Site history, spills of diesel and motor oil may have occurred near concrete pads and other parts of APN 107-070-046.

In addition, Santa Ana RWQCB employee Keith Person noted there was concern that TPH contaminated soil may have disposed of at APNs 107-070-037, 107-070-047, and 107-070-048. Biased samples were collected within the parcels and analyzed for TPH as part of the Phase I/II TBSA. The results for TPH were below action levels for all of the samples collected within those three parcels. However, further characterization of the parcels may be necessary.

## SECTION 8

### LIMITATIONS

This Phase I ESA is based on the conditions existing on the date of WESTON's site visit. The conclusions presented herein are professional opinions based solely on visual observations of the facility and vicinity, interpretation of information provided to WESTON, or reasonably available to WESTON. Past conditions were considered on the basis of observations, readily available records, interviews, and recollections.

WESTON does not warrant or guarantee the correctness, completeness, and/or currentness of the information contained in the environmental record sources and recollections used for this assessment. Such information is the product of independent investigation by parties other than WESTON and/or information maintained by government agencies.

This report is based on the current environmental regulations. Future regulatory modifications, agency interpretations, and/or policy changes may affect the compliance status of this facility.

This report discusses certain relevant environmental laws and regulations associated with the compliance evaluation of facility operations. References to relevant laws and regulations are not intended to be exhaustive, nor to provide legal advice or interpretation. The user should seek legal advice and review as to the applicable laws and their implications as to any proposed transaction.

Detailed asbestos, indoor air quality, lead paint, occupational health and safety, radon, and wetland surveys, which require specialized expertise, were not requested nor included as part of this project.

The information and conclusions in this report are intended exclusively for the purpose outlined herein. The document has been prepared by WESTON solely for the use and benefit of USACE, EPA, and the City of Corona. Any use of this document or information herein by persons or entities other than USACE, EPA or the City of Corona, without the express written consent of WESTON will be at the sole risk and liability of said person, and WESTON will not be liable to USACE, USEPA or the City of Corona, or such persons or entities, for any damages resulting there from.

The scope of services performed in execution of this project were in substantial accordance with ASTM E-1527-05, *Standard Practice for Site Assessments: Phase I Environmental Site*

*Assessment Process*, and is subject to the limitations identified in ASTM E-1527-05. This scope of services may not satisfy the needs of all users.

## SECTION 9

### REFERENCES

American Society for Testing and Materials. 2000. *E 1527-05, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, West Conshohocken, Pennsylvania.

California's Groundwater Bulletin 118, Upper Santa Ana Groundwater Basin, Temescal Subbasin, February 27, 2004.

California Environmental Protection Agency, Regional Water Quality Control Board, Santa Ana Region, Letter to Bruce Hohn, Termination of Coverage under waiver for disposal of inert waste, May 3, 2002.

Environmental Data Resources, City of Corona Report, Inquiry Number 1821580.2s, December 19, 2006.

United States Environmental Protection Agency (EPA). 2005a. The Underground Injection Control (UIC) Program, 30 Years of Protecting Groundwater Through the Safe Drinking Water Act (SDWA). [http://www.epa.gov/safewater/uic/pdfs/poster\\_uic\\_30years.pdf](http://www.epa.gov/safewater/uic/pdfs/poster_uic_30years.pdf). January 2005.

EPA. 2005b. A Citizen's Guide to Radon: The Guide to Protecting Yourself and Your Family. <http://www.epa.gov/radon/pubs/citguide.html>. September 2005.

EPA Region 9, Preliminary Remediation Goals Table,, <http://www.epa.gov/region09/waste/sfund/prg/files/02table.pdf>. October 2002.

Google Earth, 2007. 3D Interface to the World, Free Version. March 2007.

Hohn, Bruce, City of Corona Site Manager, Telephone conversation recorded on Contact Report by Tara Fitzgerald, Weston Solutions, Inc. (WESTON), March 20, 2007.

Person, Keith, Santa Ana Regional Water Quality Control Board, Telephone conversation recorded on Contact Report by Tara Fitzgerald, WESTON, March 26, 2007.

United State Geological Services, Open File 02-21 – GeologicMap of the South Corona 7.5 – Minutes Quadrangle v. 1.0,2002.

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WESTON. 2007. City of Corona, Corona, CA. Phase I/II Targeted Brownfields Site Assessment. Sampling and Analysis Plan. February 2007.